

App. No. 10/714,207
Reply to Office Action of January 10, 2006

Attorney Docket No. 2003-0442 / 24061.519
Customer No. 42717

REMARKS

Claims 3-4, 11, 13-19, 21-29 and 31-39 have been canceled, and Claim 1 has been amended. Claims 1-2 and 5-10 are present in the application. Applicants have previously paid filing fees in an amount sufficient to cover all of the claims that are now pending, and thus no additional filing fee is due in association with the submission of this Amendment. In view of the foregoing amendments and the remarks that follow, Applicants respectfully request reconsideration.

Non-Elected Claims

Claims 11, 13-19, 21-29 and 31-39 were withdrawn from examination on the merits, due to a restriction requirement. The foregoing amendments cancel these non-elected claims. Applicants reserve the right to eventually file a divisional application that presents the subject matter of these non-elected claims for examination on the merits.

Independent Claim 1

The foregoing amendments combine Claims 1 and 4 by inserting the limitations of Claim 4 into Claim 1. Thus, the subject matter that appeared in dependent Claim 4 has effectively been converted into independent form, and amended Claim 1 is identical in scope to previously-presented Claim 4. The amendment to Claim 1 therefore does not introduce any new issue into the present application.

The present Office Action rejected Claims 1 and 4 on different grounds. Therefore, since amended Claim 1 now recites the subject matter that was previously recited in Claim 4, the following discussion of patentability addresses the ground of rejection that the Office Action applied to the subject matter of Claim 4, because that subject matter is now present in Claim 1.

More specifically, with reference to Section 5 on pages 4-5 of the Office Action, the subject matter in amended Claim 1 (previously in Claim 4) was rejected under 35 U.S.C. §103 on

Appl. No. 10/714,207
Reply to Office Action of January 10, 2006

Attorney Docket No. 2003-0442 / 24061.519
Customer No. 42717

the ground that it would be obvious in view of a proposed combination of teachings from (1) Chen U.S. Patent No. 6,025,273, (2) Yeh U.S. Patent No. 6,207,565, and (3) a portion of the "Background" section of the present application. This ground of rejection is respectfully traversed. In this regard, the PTO specifies in MPEP §2142 that:

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

Applicants respectfully submit that the teachings drawn from Chen, Yeh and Applicant's Background paragraph fail to establish a *prima facie* case of obviousness under §103 with respect to Claim 1, for mutually exclusive reasons that are discussed below.

THE TEACHINGS FROM THE BACKGROUND ARE NOT ADMITTED PRIOR ART

In the present application, the paragraph that bridges pages 1-2 is part of the "Background" section of the specification. In the Office Action, the Examiner asserts that certain teachings in this paragraph constitute "admitted" prior art. This assertion is respectfully traversed. Information presented in the "Background" section of a patent application is not "admitted" prior art unless an applicant uses the specific words "prior art" to expressly state that the information is prior art. (For example, one way to make this admission is thorough use of a subtitle such as "Description of the Prior Art", instead of the subtitle "Background of the Invention"). In the present application, however, Applicants have made no such admission regarding the paragraph that bridges page 1-2. MPEP §608.01(c) explains that the "Background" section of a patent application can include "prior art or other information" (emphasis added). Thus, since the background section can properly include both prior art information and "other information", an item of information from the Background section is assumed to be other

Appl. No. 10/714,207
Reply to Office Action of January 10, 2006

Attorney Docket No. 2003-0442 / 24061.519
Customer No. 42717

information, unless an applicant expressly states that it is "prior art". This PTO policy is reflected by MPEP §2129, which explains that:

II. DISCUSSION OF PRIOR ART IN SPECIFICATION

Where the specification identifies work done by another as "prior art," the subject matter so identified is treated as admitted prior art.
[Case citations omitted]. (Emphasis in original).

In Applicants' specification, there is no admission that anything in the indicated "Background" paragraph is "prior art". Therefore, and contrary to the assertions in the Office Action, the information in this paragraph is not "admitted" prior art. As a result, the §103 rejection is based partly on information that has not been shown to qualify as "prior art" under U.S. law. Accordingly, the §103 rejection is inherently defective, and must be withdrawn. And since the rejection is not based entirely on "prior art", it is respectfully submitted that the Examiner has failed to carry the burden of establishing a *prima facie* case of obviousness under §103. Accordingly, for this independent reason alone, it is respectfully submitted that Claim 1 is not obvious under §103, and notice to that effect is respectfully requested.

THE PRIOR ART MUST TEACH ALL CLAIM LIMITATIONS UNDER §103

The provisions of MPEP §2142 specify with respect to §103 that:

To establish a *prima facie* case of obviousness . . . the prior art reference (or references when combined) must teach or suggest all the claim limitations. (Emphasis added).

The PTO considers this requirement to be important, as evidenced by the fact that this exact language appears not only in MPEP §2142, but also in other sections of the MPEP, including

Appl. No. 10/714,207
Reply to Office Action of January 10, 2006

Attorney Docket No. 2003-0442 / 24061.519
Customer No. 42717

MPEP §706.02(j) and MPEP §2143. Applicants' amended Claim 1 includes a recitation of:

- (a) performing an oxygen ashing step to remove said patterned photoresist layer;
 - (b) cleaning a residue from said opening by performing a halogen containing plasma step; and
 - (c) etching said cleaned opening in said substrate;
- wherein steps (a), (b), and (c) are performed in the same process chamber of said etching tool.

The Office Action admits that Chen and Yeh do not disclose performing certain steps in the same process chamber. The Office Action then goes on to assert that the paragraph bridging pages 1-2 in the present application teaches performing "ashing and etching steps in the same process chamber". There are two problems with this assertion.

First, as discussed above, Applicants have not admitted that the subject matter in this paragraph is "prior art". Therefore, even assuming that this paragraph does teach ashing and etching in the same process chamber, this teaching is not prior art. Since only Chen and Yeh are prior art, and since the Office Action admits that Chen and Yeh do not disclose performing multiple process steps in the same process chamber, the Office Action itself admits that the requirement of MPEP §2142 is not met, because the prior art references (i.e. only Chen and Yeh) do not disclose all of the limitations that are now recited in amended Claim 1.

Second, and even assuming hypothetically for the sake of discussion that the indicated information from Applicants' Background actually was prior art, the requirement of MPEP §2142 would still not be met. In particular, as recognized in the Office Action, the indicated information from Applicants' Background mentions performing ashing and etching in the same process chamber, but it does not mention performing a halogen plasma process to clean residue, much less in the same process chamber as the ashing and etching. Consequently, even if the

Appl. No. 10/714,207
Reply to Office Action of January 10, 2006

Attorney Docket No. 2003-0442 / 24061.519
Customer No. 42717

indicated information from Applicants' Background did happen to be prior art, combining Chen and Yeh with this information would still not "teach or suggest all the claim limitations" (emphasis added), and thus would not satisfy the PTO requirement set forth in MPEP §2142. Therefore, for this independent reason alone, it is respectfully submitted that amended Claim 1 is not obvious under §103, and notice to that effect is respectfully requested.

THERE IS NO REASONABLE EXPECTATION OF SUCCESS

In regard to establishing a prima facie case of obviousness under §103, MPEP §2142 specifies that "there must be a reasonable expectation of success. . . . and the reasonable expectation of success must . . . be found in the prior art, and not based on applicant's disclosure". The present Office Action asserts that a person of ordinary skill in the art would be motivated to make the proposed combination "because of the desirability to reduce production and equipment cost and processing time, since only [one] . . . tool is needed". However, Applicants respectfully submit that this proposed motivation is highly theoretical, and has little practical relevance in the real world. More specifically, if it was practical to do so, the entire fabrication of every integrated circuit device would be carried out from start to finish in a single process chamber, namely "because of the desirability to reduce production and equipment cost and processing time, since only [one] . . . tool is needed". But as a practical matter, the fabrication of virtually all integrated circuits requires the use of multiple process chambers, and there are strict practical limits on how many successive steps can be carried out in a single process chamber. Persons skilled in the art are very familiar with the fact that it is typically not at all simple or obvious to carry out a sequence of steps in a single process chamber. Consequently, for a given sequence of steps, a person skilled in the art would not normally have any reasonable expectation that those steps could be easily and successfully carried out in a single process chamber, despite the "desirability to reduce production and equipment cost and processing time". And to the extent that a person skilled in the art would not normally have a reasonable expectation of success for any given sequence of multiple steps, the Office Action

Appl. No. 10/714,207
Reply to Office Action of January 10, 2006

Attorney Docket No. 2003-0442 / 24061.519
Customer No. 42717

fails to establish a reasonable expectation of success for the proposed combination of steps. The only reason that the Examiner expects the proposed combination of steps could be successfully carried out in a single process chamber is because of hindsight of the success that is discussed in Applicants' disclosure. But this is prohibited by MPEP §2142, which specifies that "the reasonable expectation of success must . . . be found in the prior art, and not based on applicant's disclosure". The Office Action lacks any discussion at all of why there would be a reasonable expectation of success taught by the prior art. Consequently, the Office Action fails to satisfy one of the essential PTO requirements needed to establish a prima facie case of obviousness. Accordingly, for this independent reason alone, it is respectfully submitted that Claim 1 is not obvious under §103, and notice to that effect is respectfully requested.

In view of the various different reasons discussed above, it is respectfully submitted that Claim 1 is not rendered obvious under §103 by Chen, Yeh and the indicated portion of Applicants' specification. Claim 1 is therefore believed to be allowable, and notice to that effect is respectfully requested.

Dependent Claims

Claims 2 and 5-10 depend from Claim 1, and are also believed to be distinct from the art of record, for example for the same reasons discussed above with respect to Claim 1.

Conclusion

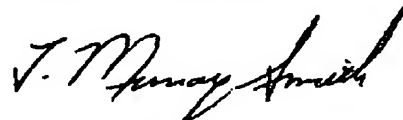
Based on the foregoing, it is respectfully submitted that all of the pending claims are fully allowable, and favorable reconsideration of this application is therefore respectfully requested. If the Examiner believes that examination of the present application may be advanced in any way by a telephone conference, the Examiner is invited to telephone the undersigned attorney at 972-739-8647.

Appl. No. 10/714,207
Reply to Office Action of January 10, 2006

Attorney Docket No. 2003-0442 / 24061.519
Customer No. 42717

Although Applicants believe that no fees are due in association with the filing of this Amendment, the Commissioner is hereby authorized to charge any additional fee required by this paper, or to credit any overpayment, to Deposit Account No. 08-1394 of Haynes and Boone LLP.

Respectfully submitted,



T. Murray Smith
Registration No. 30,222
(972) 739-8647

Date: March 2, 2006

HAYNES AND BOONE, LLP
901 Main Street, Suite 3100
Dallas, Texas 75202-3789
Telephone: (972) 739-8647
Facsimile: (214) 200-0853
File: 24061.519

Enclosure: None

R-129400.1